

In re Chang  
Appln. No. 09/837,217  
Supplemental Amdt. of Oct. 31, 2003

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A pharmaceutical composition for application at a biodegradable plate-containing site requiring new bone, cartilage or connective tissue formation in a subject, comprising a plurality of bone marrow stromal cells (MSCs) isolated from the subject;

wherein the MSCs comprise a vector comprising a DNA sequence encoding BMP-2 operably linked to a promoter, and a pharmaceutically acceptable polymer,~~and~~  
~~wherein a biodegradable plate is applied to the site prior to the application of the composition.~~
2. (Original) The composition as recited in Claim 1 wherein the polymer is selected from a group consisting of alginate and collagen.
3. (Original) The composition as recited in Claim 1 wherein the MSCs are present in a concentration of about  $50 \times 10^6$  per ml of the polymer.
4. (Previously Amended) The composition as recited in Claim 1 wherein the polymer is collagen type I.
5. (Previously Amended) A method of enhancing new bone, cartilage or connective tissue formation in a subject, comprising:

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- a. obtaining a plurality of bone marrow stromal cells (MSCs) from a subject;
  - b. transducing the MSCs of step a) with a vector comprising a DNA sequence encoding BMP-2 operably linked to a promoter to generate BMP-2 protein producing MSCs;
  - c. applying a biodegradable plate to a site requiring new bone, cartilage or connective tissue formation on the subject; and
  - d. applying a composition comprising the BMP-2 protein producing MSCs and a pharmaceutically acceptable polymer to the site,  
such that new bone, cartilage or connective tissue formation is enhanced.
6. (Previously Amended) The method as recited in Claim 5 wherein the DNA sequence encoding BMP-2 is transferred via an adenovirus.
7. (Cancelled)
8. (Previously Amended) The method as recited in Claim 5 wherein the protein producing MSCs are topically applied in a concentration of about  $50 \times 10^6$  per ml of a pharmaceutically acceptable polymer and produce an effective amount of the protein.
9. (Cancelled)
10. (Cancelled)
11. (New) The composition of claim 1 wherein the composition is a gel.

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12. (New) The method of claim 5 wherein the composition is a gel.
13. (New) The composition of claim 1 wherein the biodegradable plate comprises poly(lactic acid) (PLLA).
14. (New) The method of claim 5 wherein the biodegradable plate comprises poly(lactic acid) (PLLA).